

DAFTAR PUSTAKA

- Aburai, N., D. Sumida and K. Abe. 2015. Effect of light level and salinity on the composition and accumulation of free and ester-type carotenoids in the aerial microalga *Scenedesmus* sp. (Chlorophyceae). *Algal Research*. 8 : 30-36
- Ahamad, M.N., M. Saleemulah, H.U. Syah, I.A. Khalil and A.U.R. Saljoqi. 2007. Determination of Beta Carotene Content in Fresh Vegetable Using High Performance Liquid Chromatography. *Sarhad J. Agric.*, 23(3) : 767-770
- Alonso, D.L., E.H. Belarbi, J.M. Fernandez-Sevilla, J. Rodriguez-Ruiz and E.M. Grima. 2000. Acyl lipid composition variation related to culture age and nitrogen concentration in continuous culture of the microalgae *Phaeodactylum tricornutum*. *Phytochemistry*. 54 : 461-471
- Becker, E.W., 2007. Microalgae as a source of protein. *Biotech. Adv.* 25 : 207-210
- Breuer, G., L. de Jaeger, V. P.G. Artus, D. E. Martens, J. Springer, R. B. Draaisma, G., René, H. Wijffels and P.P. Lamers. 2014. Superior triacylglycerol (TAG) accumulation in starchless mutants of *Scenedesmus obliquus*: (II) evaluation of TAG yield and productivity in controlled photobioreactors. *Biotechnology for Biofuels*. 7(70) : 1-11
- Cardoso, L.C., C.M. Serrano¹, M.R. Rodríguez¹, E.J.M. Ossa and L.M. Lubián. 2012. Extraction of Carotenoids and Fatty Acids from Microalgae Using Supercritical Technology. *American Journal of Analytical Chemistry*. 3: 877-883
- Carrero, A., G. Vicente, R. Rodriguez, G.L.D. Peso and C. Santos. 2015. Synthesis of fatty acids methyl esters (FAME) from *Nannochloropsis gadinata* microalga using heterogenous acid catalysts. *Biochemical Engineering journal*. 97 : 119-124
- Chagas, A.I., A.O. Rios, A. Jarenkow, N.R. Marcilio, M.A.Z. Ayub and R. Rech. 2015. Productions of Carotenoids and Lipids by *Dunaliella tertiolecta* using CO₂ from Beer Fermentation. *Process Biochemistry*. 50 : 981-988
- Chan, Y., J.Y. Lee, C.Y. Ahn and H. M. Oh. 2010. Selection of microalgae for lipid production under high levels carbon dioxide. *Bioresour. Technology*. 101 : S71-S74.
- Chisti, Y., 2007. Biodiesel from microalgae. *Biotechnology advances*. 25 : 294-306

- Christaki, E., E. Bonos, I. Giannenas and P. Florou-Paneri. 2013. Functional properties of carotenoids originating from algae. *J. Sci. Food Agric.*, 93 : 5-11
- Christenson, L and R. Sims. 2011. Production and harvesting of microalgae for wastewater treatment, biofuels and bioproduct. *Biotechnology Advances*. 29 : 686-702
- Converti, A., A.A. Casazza, E.Y. Ortiz, P. Perego and M.D. Borghi. 2009. Effect of temperature and nitrogen concentration on the growth and lipid content of *Nannochloropsis oculata* and *Chlorella vulgaris* for biodiesel production. *Chem. Eng. Process*. 48 : 1146-1151
- David, K., Y. Lim, S. Garg, M. Timins, E.S.B. Zhang, S.R. Thomas-Hall, H. Schuhman, Y. Li and P.M. Schenk. 2012. Isolation and Evaluation of Oil-Producing Microalgae from Subtropical Coastal and Brackish Water. *Evaluation of Oil-Producing Microalgae for Biofuel*. 7 : 1-12
- Dean, A.P., D.C. Sigeo, B. Estrada and J.K. Pittman. 2010. Using FTIR spectroscopy for rapid determination of lipid accumulation in response to nitrogen limitation in freshwater microalgae. *Bioresour. Technol.*, 101 : 2299-4507
- Duong, V.T., Y. Li, E. Nowak and P.M. Schenk. 2012. Microalgae Isolation and Selection for Prospective Biodiesel Production. *Energies*. 5: 1835-1849.
- Emeish, S. 2012. Production of Natural β -Carotene from *Dunaliella* living in the Dead Sea. *JJEES*. 4: 23-27.
- ESDM. 2014. *Indonesia Energy Outlook*. Pusat Data dan Informasi Sumber Daya Energi dan Mineral. Jakarta
- Ghasemnejadmalei, H.M., M. Almassi and N. Nasirian. 2014. Biodiesel production from microalgae and determine properties of produced fuel using standard test fuel. *International of Biosciences*. 5(2) : 47-55
- Gonzales, L.E., R.O Canizares and S Baena. 1997. Efficiency of Ammonia and Phosphorus Removal from A Colombian Agroindustrial Wastewater by Microalgae *Chlorella Vulgaris* and *Scenedesmus Dimorphus*. *Biosource Technology*. 60 : 259-262
- Gouveia, L. and A.C. Oliveira. 2009. Microalgae as a raw material for biofuels production. *J Ind Microbiol Biotechnol*. 36 : 269-274
- Gouveia, L., Microalgae as a Feedstock for Biofuel. 2011. *Springer*.

- Grama, B.S., S. Chader, D. Khelifi, B. Stenuit, C. Jaffryes and S.N. Agathos. 2014. Characterization of fatty acid and carotenoid production in an *Acutodesmus* microalgae isolated from the Algerian Sahara. *Biomass and Bioenergy*. 69 : 265-275
- Guedes, A.C., H.M. Amaro, and F.X. Malcata. 2011. Microalgae as Sources of Carotenoids. *Mar. Drugs* 2011. 9: 625-644
- Hambali, E., S. Mudjalifah, A.H. Tambunan, A.W. Pattiwiridan R. Hendroko. 2008. Teknologi Bioenergi. *Agromedia Pustakajakarta*: 1-37
- Harun, R., M. Singh, G. Forde and M.K. Danquah. 2010. Bioprocess engineering of Microalgae to Produce a Variety of Consumer Product : Review. *Renewable and Sustainable Energy*. 14 : 1037-1047
- Hifney, A.F., A.A. Issadan M.A. Fawzy. 2013. Abiotic stress induced production of β -carotene, allophycocyanin and total lipids in *Spirulina* sp. *J. Biol. Earth Sci.*, 3 : B54-B64
- Hosikian, A., S. Lim, R. Halim and M.K. Danquah, 2010. Chlorophyll extraction from microalgae: a review on the process engineering aspects. *Int. J. Chem. Eng.* 2010, 11.
- Hu, Q., M. Sommerfeld, E. Jarvis, M. Ghirardi, M. Povewitz, M. Seibert and A. Darzins. 2008. Microalgal triacylglycerols as feedstocks for biofuel production : perspectives and advances. *The Plant Journal*. 54 : 621-639.
- Indhumathi, P., S.S. Shabuden and U.S. Shoba . 2014. A Method for Production and Characterization of Biodiesel from Green Microalgae. *International Journal of Bio-Science and Bio-Technology*. 6(5) : 111-122.
- Kareem, H.A, H. Uthman, A.S. Afolabi, and O.I. Awonebe. 2011. Sustainable Growth and Application in Renewable Energy Sources. *In Tech.*, 243-268
- Kumar S., Sangwan P., Dhankhar R. Mor V., and Bidra S. 2013. Utilization of Rice Husk and Their Ash: A Review. *Res. J. Chem. Env. Sci.*, 1(5) : 126-129
- Kumar, M.S., A. Ramesh and B. Nagalingam. 2003. An experimental comparison of methods to use methanol and Jatropha oil in a compression ignition engine. *Biomass and Bioenergy*. 25(3) : 309-318.
- Laurens, L.M.L., M. Quinn., S. V. Wychen., D. W. Templeton and E. J. Wolfrum. 2012. Accurate and reliable quantification of total microalgae fuel potential as fatty acid methyl esters by in situ transesterification. *Anal Bioanal Chem.*, 403: 167-178.

- Lee, T.H and H.Y. Wang. 2014. Simultaneous quantification of cellulair lipids and carotenoids inside *Chlorella vulgaris* using Raman spectrometry. *Energy Procedia*.61 : 829-833.
- Lee, Y., W. Chen and H. Sen. 2013. Basic Culturing and Analitical Measurements Techniques. *Handbook of Microalgal Culture*.37-68.
- Lemasson, C., N. T. DE Marsct, and G. Cohen-B. 1973. Role of Allophycocyanin as a Light-Harvesting Pigment in Cyanobacteria. *Proc. Nat. Acad. Sci. USA*. 70(11) : 3130-3133.
- Leyla, U., O. Isik, K. Koc and T. Goksan. 2011. The Effect of Nitrogen Deficiencies on The Lipid and Protein Content of *Spirulina* plantesis. *African Journal of Biotechnology*. 10 (3) : 386-389
- Li, Y., M. Horsmand and N. Wu., 2008. Biofuel from Microalgae. *Biotechnol.*, 24 : 815-820
- Liang, Y., N. Sarkany and Y. Cui. 2009. Biomass and lipid productivities of *Chlorella vulgaris* under autotrophic, heterotrophic and mixotrophic growth conditions. *Biotechnol Let.*, 31 : 1043-1049.
- Liau, B.C., F. P. Liang, S.E. Hong, S. L. Hsu, T. T. Jong and C. M. J. Chang. 2010. Supercritical fluids extraction and anti-solvent purification of carotenoid from microalgae and associated bioactivity. *Journal of Supercritical Fluids*.55 : 169-175.
- Liu, Z., C. Liu, Y. Hou, S. Chen, D. Xiao, J. Zhang and F. Chen. 2013. Isolation and Characterization of a Marine Microalga for Biofuel Production with Astaxanthin as Co-Product. *Energies*.6 : 2759-2772.
- Lordan, S., R. P. Ross and C.R. Stanton. 2011. Marine bioactives as functional food ingredients: potential to reduce the incidence of chronic diseases. *Mar. Drugs*.9 : 1056-1100
- Mandal, S. and N. Mallick. 2011. Waste Utilization and Biodiesel Production by the Green Microalga *Scenedesmus obliquus*. *Applied and Environmental Microbiology*.77(1): 374–377
- Markon, G., I. Angelidaki, E. Nerantzis and D. Georgakaki. 2013. Bioethanol Production by Carbohydrate-Enriched Biomass of *Arthrospira (Spirulina) platensis*. *Energies*.6 : 3937-3950
- Mata, T. M., R. Almeida and N. S. Caetano. 2013. Effect of the Culture Nutrients on the Biomass and Lipid Productivities of Microalgae *Dunaliella tertiolecta*. *Chemical Engineering Transaction*.32 : 973-978.

- Maurya, S.S., J.N. Maurya and V.D.Pandey. 2014. Factors regulating phycobiliprotein production in cyanobacteria. *Int.J.Curr. Microbiol. App.Sci.* 5 : 764-771
- Milledge, J.J. 2011. Commercial application of microalgae other than as biofuels : a brief review. *Rev Environ SciBiotechnol.* 10 : 31-41.
- Munaf, E and R. Zein. 1997. The Use of Rice Husk for Removal of Toxic Metals from Wastewater. *Environmental Technology.*18 : 359-362
- Musharraf, S.G., M.A. Ahmed, N. Zehra, N. Kabir, M.I. Choudhary and A. Rahman. 2012. Biodiesel Production from Microalgae isolates of Southhern Pakistan and Quantification of FAMES by GC-MS/MS Analysis. *Chemistry Central Journal.* 6(149) : 1-10
- Mustapha, Y and S.R. Babura. 2009. Determination of carbohydrate and beta carotene content of some vegetables consumed in Kano metropolis, Nigeria. *Bayero Journal of Pure and Applied Sciences.* 2(1) : 119-121.
- Nigam, S., M.P. Rai and R. Sharma. 2011. Effect of Nitrogen on Growth and Lipid Content of *Chlorella pyrenoidosa*. *American Journal of Biochemistry and Biotechnology.* 7(3) : 124-129
- Nubel. U., F.G –Pichell and G. Muyzer. 1997. PCR Primers To Amplify 16S rRNA Genes from Cyanobacteria. *APPLIED AND ENVIRONMENTAL MICROBIOLOGY.*63(8) : 3327–3332.
- Patil, V., Q. Tran and K. Giseler. 2008. Towards Sustainable Production of Biofuels from Microalgae. *International Journal of Molecular Science.*9 : 1188-1195
- Pisal, D.S and S.S. Lele. 2005. Carotenoid production from microalgae, *Dunaliellasalina*. *Indian Journal of Biotechnology.*4 : 476-483
- Pittman, J.K., A.P. Dean and O. Osundeko. 2010. The Potential of Sustainable Algal Biofuel Production Using Wastewater Resources. *Biosource Technology.* 1-9
- Rajasri, Y., R.S. Rao and C.S.Rao. 2013. Lipid Productivity of *Chlorella pyrenoidosa* in A Customized Lab Scale Photobioreactor Under Stress Conditions. *International Journal of ChemTechReseach.* 5(2) : 719-726.
- Reda, A.I., A. Shanab, J.H. Hwang, Y. Cho, B. Min and B.H.H. Jeon. 2011. Characterization of microalgae species isolated from fresh water bodies as a potential source for biodiesel production. *Applied Energy.*88 : 3300-3306

- Refaat, A.A., S.T. El Sheltawy and K.U. Sadek. 2008. Optimum reaction time, performance and exhaust emissions of biodiesel produced by microwave irradiation. *International Journal of Environmental Science and Technology*. 5 (3) : 315-322
- Ren, H.Y., B.F. Liu, C. Ma, L. Zhao and N.Q. Ren. 2013. A new lipid –rich microalgae *Scenedesmus sp.* Strain R-16 isolated using Nile red staining: effect of carbon and nitrogen sources and initial pH on the biomass and lipid production. *Biotechnology for Biofuels*. 6:1-10
- Richmond, A., 2004. *Handbook of microalgal culture*. Biotechnology and Applied Phycology. Blackwell Science Ltd.
- Richmond, A and Q. Hu.2013. *Handbook of Microalgae Culture*. Applied Phycology and Biotechnology. Wiley Blackwell.
- Sanjay, K.R., N.P.M.Nagendra, S. Anupama, B.R. Yashaswi and B. Deepak . 2013. Isolation of diatom *Naviculacryptocephala* and characterization of oil extracted for biodiesel production. *African Journal of Environmental science and Technology*. 7(1) : 41-46.
- Sato, N., M. Hagio, H. Wada and A.M. Tsuzuki. 2000. Environmental effects on acidic lipids of tylakoid membranes. *Biochem.Soc.Trans.*, 28 : 912-914
- Sharma, K.K., H.Schuhmann and P.M. Schenk. 2012.High Lipid Induction in Microalgae for Biodiesel Production. *Energy*.5 : 1532-1553.
- Singh, D.K and N. Mallick. 2014. Accumulation potential of lipids and analysis of fatty acid profile of few microalgal species for biodiesel feedstock..*Journal of Microbiology and Biotechnology Research*. 4(1) : 37-44.
- Singh, P., A.Guldhe, S. Kumari, I. Rawat and F. Bux. 2015. Investigation of combined effect of nitrogen, phosphorus and iron on lipid productivity of microalgae *Ankistrodesmusfalcatus* KJ671624 using response surface methodology. *Biochemical Engineering Journal*.94 :. 22-29.
- Sivathanu, B and S.Palaniswamy. 2012. Purification and characterization of carotenoids from green algae *Chlorococcumhumicola* by HPLC-NMR and LC-MS-APCI. *Biomedicine & Preventive Nutrition*.2 : 276-282.
- Skjanes, K., C. Reboursdan P.Lindblad. 2013. Potential for green microalgae to produce hydrogen, pharmaceuticals and other high value products in a combined process.*Crit. Rev. Biotechnol*. 33 :172-215.
- Stengel, D.B., S. Connan, Z.A. Popper, 2011. Algal chemodiversity and bioactivity: sources of natural variability and implications for commercial application. *Biotechnol.Adv*.29 : 483-501

- Susanty, D., K. Oh-Hashi, Y. Yamaguchi, K. Tanaka, S. Yoshida, A. Dharma, E. Munaf and M. Koketsu. 2013. Isolation, Identification and Fatty acid Analysis of Microalgae from West Sumatera, Indonesia. *J. Algal Biomass Utiln.* 4(4) : 7-13
- Sydney, E.B., T.E.D. Silva, A. Tokarski, A.C. Novak, J.C.D. Carvalho, A.I. Woiciechowski, C. Larroche and C.R. Soccol. 2011. Screening of microalgaewith potential for biodiesel production and nutrient removal from treated domestic sewage. *Applied Energy*.88 : 3291-3294
- Tadashi, M., M.M.Y. Maeda, H. Sugiyama, R Sato and T.Tanaka, 2009. Characterization of marine microalga, *Scenedesmus* sp. strain JPCC GA0024 toward biofuel production. *BiotechnolLett.*, 31 : 1367–1372.
- Talab, H. A., M.A.A. Motallebidan R. Pourgholam.2010. Extraction and Purification of Omega-3 Fatty Acids Concentrate from Hypophthalmichthysmolitrix Oil. *EmeraldGroup Publishing Limited Nutrition & Food Science*. 40(2) : 93-103
- Tang, G. and P.M. Suter. 2011. Vitamin A, Nutrition and Health value of Algae: *Spirulina, Chlorella andDunaliella*. *Journal of Pharmacy and Nutrition Sciences 2011*.1 : 111-118.
- Teresa, M.M, A.A. Martins and N. S.Caetano. 2010. Microalgae for biodiesel production and other applications : A review. *Renewable and Sustainable Energy Reviews*.14 :. 217-232.
- Thomson, G.A. 1996. Lipids and membrane function in green algae. *Biochim.Biophys.Acta*.1302 : 17-45
- Ullah, N., A.Khan, F.A. Khan, M. Khurram, M. Hussam, S. M. U.Khayam, M.Amin and J. Hussain. 2011. Composition and Isolation of Beta Carotene from Different Vegetables and Their Effect on Human Serum Retinal Level. *Middle-East Journal Scientific Research*. 9(4) : 496-502.
- Varela, J.C., H. Pereira. M. Vila and R. Leon. 2015. Production of carotenoids by microalgae : achievements and challenges. *Photosynth Res*. 1-14
- Varitha, A., A. Dharma, E. Munaf, N. Nasir and Afrizal. 2013. Isolation Oil Producing Microalgae *Chlamidomonassnowii* from Tropical Fresh Water, Indonesia. *Research Journal of Pharmaceutical, Biological and Chemical Science*.4 : 1462-1470
- Widjaja, A., C.C. Chien and Y.H. Ju. 2009. Study of increasing lipid production from fresh water microalgae *Chlorella vulgaris*.*Journal of Taiwan Institute of Chemical Engineers*.40 : 13-20

- Xiaodan, W., R.R Zhenyi-Du and Y.Liu. 2012. Current Status and Prospects of Biodiesel Production from Microalgae. *Energies*.5 : 2667-2682.
- Xue, J., Y.F. Niu, T. Huang, W.D. Yang, J.S. Liu and H.Y. Li. 2015. Genetic improvement of the microalgae *Phaeodactylumtricornutum* for boosting neutral lipid accumulation. *Metabolic Engineering*.27 : 1-9
- Yang, X., P. Liu, Z. Hao, J. Shi and S. Zhang. 2012. Characterization and Identification of Freshwater Microalgal Strains toward Biofuel Production. *Bioresources*. 7 (1) : 686-695
- Ying H. H., X. Li, Y. Yu, Y.H. Wu, M.Sagehashi and A. A. Skoda. 2011. Domestic Wastewater Reclamation Coupled with Biofuel/Biomassa Production Based Microalga: A novel treatment prosess in the future. *Journal of Water and EnvirontmentTechnology*. 9 (12) : 199-206.
- Yuan, C., J.Liu, Y. Fan, X. Ren, G. Hu and F. Li. 2011. *Mychonastes* HSO-3-1 as a potential new source of biodiesel. *Biotechnology for Biofuels*.4(47) : 1-8

